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The Relationship Between Social and Emotional Intelligence in Children

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THE RELATIONSHIP BETWEEN SOCIAL AND EMOTIONAL INTELLIGENCE IN CHILDREN

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The relationship between social and emotional intelligence was investigated. The study sample consisted of 31 females and 28 males who were between the ages of 9 and 12. The student participants completed the Social Skills Rating System-Student Form (SSRS), which assesses social competence, and the Emotional Quotient Inventory: Youth Version (EQ-i:YV), which measures emotional intelligence. Parents of the children also completed the Social Skills Rating System-Parent Form for comparison purposes. Both forms of the SSRS yielded statistically significant correlations with the EQ-i:YV. The results indicate that the instruments designed to assess emotional intelligence and social intelligence were highly related. The importance of the present findings is that they are a preliminary step in the discussion of social and emotional intelligence and their cultural importance.

Literature Review

History of Intelligence Testing

Throughout the documented history of intelligence testing, numerous individuals have made countless contributions to the current view of assessing intelligence. The need to quantify or classify mental abilities with a test arose from the confusion between those people who were mentally deficient and those people who were mentally disturbed. Sattler (1992) notes that in 1838 Esquirol noticed that individuals who were mentally deficient "never developed intellectual capacities," while mentally disturbed individuals "lost the abilities they once possessed" (p. 38). Esquirol assessed physical characteristics and patterns of speech as a means of differentiating between the two groups.

One development that was critical for the measure of intelligence was the move toward compulsory education. This move would bring all children into the schools. Previously, schools had been just for the socially elite. Thus, the curricula and academic standards of the time were developed for the more advantaged groups of students. With the high standards came an enormous failure rate, which was seen as a waste of resources. Therefore leaders searched for ways to make the best use of the resources, and intelligence testing was one alternative (Thorndike, 1997).

The father of the testing movement, Sir Francis Galton, made an important contribution to the future of how intelligence tests would be constructed. Sattler (1992) states that is was Galton who came up with the "statistical concepts of regression to the

mean and correlation" (p. 38). Galton devised a test to measure sensory discrimination and motor coordination to predict mental ability (Thorndike, 1997). While Galton made important contributions to assessment methods, his tests had little practical value.

The practicality of intelligence testing was later made prominent by James McKeen Cattell, who was interested in individual differences in behavior. In 1890, Cattell first coined the term "mental test" (Thorndike, 1997). He proposed that if intelligence could be reliably measured, then intelligence tests could be used for a variety of purposes such as the "selection of people for training and for diagnostic evaluations" (Sattler, 1992, p. 39). Cattell worked to further expand on Galton's test to include rate of movement, two-point discrimination, reaction time for sounds, and various other sensory-motor assessments.

Over the years, the quest to further improve and refine intelligence tests continued. New tests, beyond sensory-motor, were being constructed for inclusion in the measurement of mental functioning. Sattler (1992) notes that researchers were looking in the areas of perception, memory, attention, computation, and sentence completion to aid in the development of intelligence tests. Alfred Binet, Victor Henri, and Theodore Simon were among those researchers searching for new assessment areas. Their work resulted in what is considered to be the first practical intelligence test. This test, developed in 1905, is otherwise known as the Binet-Simon scale. The importance of this scale is that it could show various degrees of mental retardation. The Binet-Simon scale was revised in 1908 and again in 1911 to modify, make additions, and further standardize the scale. Binet has been credited with combining series of tests and developing an appropriate way to measure intelligence (Carroll, 1982). A major contribution of this particular test was

the 1916 standardization by Lewis Terman, of Stanford University, where it became known as the Stanford-Binet (Sattler, 1992). The Stanford-Binet Intelligence test remained a prominent intelligence test throughout the 20th century.

In the mid-1900s two prominent researchers, Robert Yerkes and David Wechsler, carefully reviewed the contributions previously made to the intelligence testing field. Both were concerned about the use of an age-scale format used by intelligence tests, such as the Stanford-Binet, to determine resulting scores. The age-scale format was used to derive a score from test items. Individual test items were assigned an age-level score based upon the majority of people at each age level correctly answering the test item. Yerkes and Wechsler were interested in a point-scale format where points were assigned to a given test item based upon criteria such as the correctness of the response, quality of the response, and, in some instances, the speed of answering the test item (Sattler, 1992).

Wechsler, in an effort to develop a point-scale, selected eleven separate subtests to form the Wechsler-Bellevue Intelligence Scale, Form 1. Eventually, the test evolved into three tests, one at the preschool level, one for school-age children, and one for adults. When choosing the subtests Wechsler was influenced by his view of intelligence as being "part of the larger whole of personality" (Sattler, 1992, p. 43). Wechsler's intelligence tests were designed to measure one's general mental ability.

The testing movement during the first half of the 20th century had a profound effect on how intelligence is viewed today. Despite the many contributions and improvements that have been made to intelligence testing many criticisms remain relating to the ineffectiveness and the shortcomings of intelligence tests. Criticisms of intelligence testing include such issues as IQ test's limited ability to predict nontest or

nonacademic intellectual activity, the tests do not capture the complexity of real-life situations, and intelligence tests are culturally biased against ethnic minorities (Thorndike, 1997). With regard to issues of social competence, Zigler and Farber state that "individuals with the same IQ vary widely in their social competence, as well as in the expression of their talents" (as cited in Sattler, 1992, p. 77).

Alternative Concepts of Intelligence

Multiple intelligences.

Various other concepts of intelligence came about because prominent intelligence researchers such as E. L. Thorndike and Robert Sternberg felt that intelligence was more than just a unitary concept as earlier researchers had suggested (Salovey & Mayer, 1990). It is now generally accepted that intelligence is multidimensional (Kranzler, 1997). Gardner (1983) took the notion of multidimensional intelligence a step further by postulating that there are specific multiple intelligences. Gardner initially identified seven forms of intelligence: linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal. Years later, Gardener added the intelligence of the naturalist and most recently existential intelligence to his list of multiple intelligences (Campbell & Campbell, 1999). Interpersonal and intrapersonal intelligences are viewed by Gardner (1983) as comprising social intelligence.

Another concept of intelligence, closely related to social intelligence, is Sternberg's (1996) successful intelligence. He defines successful intelligence as "the acquisition and use of what you need to know to succeed in a particular environment" (Sternberg, 1996, p. 19). People who present themselves as being successfully intelligent are highly motivated, goal setters, can evaluate their own strengths and weaknesses, have

the ability to figure out problems, and follow through with their actions. Successful intelligence is distinct from the domain of academic intelligence and may even be a more necessary factor to succeed in real life.

Social intelligence. E.L. Thorndike originally defined the concept of social intelligence in 1920. He defined it as "the ability to perceive one's own and others' internal states, motives, and behaviors, and act toward them optimally on the basis of that information" (Salovey & Mayer, 1990, p. 187). Later, Weinstein (1969) stated that social intelligence "boils down to the ability to manipulate the response of others" (p. 755). Greenspan and Granfield (1992) provide a more recent definition of social intelligence:

> Social intelligence refers to a person's ability to understand and to deal effectively with social and interpersonal objects and events. Included in this construct are such variables as role-taking, empathic judgment, person perception, moral judgment, referential communication and interpersonal tactics. (p. 449)

The concept of social intelligence came about from the notion that there are different types of intelligences within one's general intelligence. Ford and Tisak (1983) note that throughout the literature researchers have generally used one of three criteria to define the domain of social intelligence. The first criterion refers to the decoding of social information or the ability to make accurate social inferences. The second criterion is the effectiveness or adaptiveness of one's social performance. In essence, the second criterion refers to judgments which are made about one's social skills. The third criterion is essentially any social measure with a skill component. Compared to the first

two criteria, the third criterion is a much broader interpretation of social intelligence. As stated by Ford and Tisak (1983), "any test which assesses social skills is a measure of social intelligence" (p. 197).

Emotional intelligence. Emotional intelligence or EQ originated with Salovey and Mayer (1990). The construct of emotional intelligence is believed to show discriminant validity from general intelligence (Mayer & Salovey, 1993). They conceptualize it as the appraisal and expression of emotion, the regulation of emotion, and the utilization of emotion. It is defined as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). In the recent years, Mayer and Salovey (1997) have revised their definition with the hope of further clarifying emotional intelligence in the areas of perceiving and regulating emotion, as well as thinking about feelings. Their revision is as follows:

> Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; and the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth. (p. 10)

Researchers such as Salovey and Mayer (1990) view emotional intelligence as an aspect of social intelligence. By comparing the definition of emotional intelligence to the previously discussed definitions of social intelligence, similarities can be seen regarding the perceptions of one's own and others' states to gain an optimal outcome. The main

distinction is that emotion plays a more prominent role in the decisions made with one's emotional intelligence.

Reuven Bar-On and James D. A. Parker, the creators of the first emotional quotient measure, developed a model of emotional intelligence. The Bar-On and Parker model consists of emotional, personal, and social domains. Bar-On and Parker (2000) state that "emotional intelligence is an important factor in determining one's ability to succeed in life" (p. 33). They define emotional intelligence as "an array of emotional, personal, and interpersonal abilities that influence one's overall ability to cope with environmental demands and pressures" (p. 33).

Numerous others have also defined emotional intelligence. The definitions are similar in that they emphasize a positive outcome in interactions. The emphasis on the element of emotion tends to differ. One definition is not considered superior over the others. One definition presented by Goleman (1995), the author of the popular book Emotional Intelligence, incorporates motivation and persistence when faced with difficulties, impulse control and delay gratification, mood regulation, and empathy. Elder (1997) defines it as "a measure of the degree to which an individual successfully or unsuccessfully applies sound judgment and reasoning to situations in the process of determining an emotional or feeling response to those situations" (p. 40). A final definition of emotional intelligence states that it is the "capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures that directly affect ones overall psychological well being" (Mirsky, 1997, p. 25).

The concept of emotional intelligence has received significant interest in recent years. Researchers believe that emotional intelligence contributes to a healthy personality. Emotional intelligence can be considered an indication of positive mental health. "Emotionally intelligent individuals accurately perceive their emotions and use integrated, sophisticated approaches to regulate them as they proceed toward important goals" (Salovey & Mayer, 1990, p. 201). Salovey and Mayer (1990) further note that those individuals who are deficient in emotional intelligence are "people who cannot recognize emotion in themselves and are therefore unable to plan lives that fulfill them emotionally" (p. 201). These deficits may lead to lives of unrewarded experience, which can result in depression or suicide. Proponents of emotional intelligence believe that EQ can be taught and developed within our school systems and general culture to promote more mentally healthy individuals.

The Relationship Between Social Intelligence and Social Competence

Social competence has been defined as "the attainment of relevant social goals in specified social contexts, using appropriate means, and resulting in positive development outcomes" (Ford & Tisak, 1983, p. 197). Social competence is a concept that has been used in the educational field for many years (Gresham & Reschly, 1987; Reschly, 1985). The part that is not entirely clear is whether or not social competence and social intelligence refer to the same construct.

There is evidence, however, that social competence and social intelligence do refer to the same general construct. When comparing the definitions of social intelligence and social competence, both are concerned with the ability of a person to evaluate a situation and employ particular skills for that situation that result in a positive

interaction. Furthermore, the two terms have been used interchangeably in the literature. Ford and Tisak (1983) used the terms interchangeably while defining social intelligence stating ". . . concerning the nature of socially intelligent or socially competent people. . ." (p. 197). Also, Gresham and Elliot (1987) quote Thorndike who previously stated "social intelligence or social competence was one of three types of intelligences" (p. 168). By using the two terms interchangeably, the researchers seem to acknowledge that social intelligence and social competence are the same construct.

The Relationship Between Social Competence and Social Skills

Social competence and social skills are terms used in the educational literature. Such terms, however, are not necessarily synonymous. Gresham and Reschly (1987) believe social skills and adaptive behavior are two sub-categories of social competence. Gresham (1997) notes that "social skills are the specific behaviors that a person exhibits to perform competently on a social task. Social competence, on the other hand, is an evaluative term based on judgments that a person has performed a social task adequately" (p. 40).

Gresham and Elliott (1987) state that the literature generally defines social skills with either a peer acceptance, behavioral, or social validity definition. The peer acceptance definition uses "indices of peer acceptance or popularity to define children as socially skilled" (p. 169). In the behavioral definition "social skills are defined as situationally specific behaviors that maximize the probability of securing or maintaining reinforcement or decreasing the likelihood of punishment or extinction contingent upon one social behavior" (p. 169). The social validity definition, which is the most

comprehensive, defines social skills as "those behaviors which, within given situations, predict important social outcomes" (Gresham & Elliot, 1987, p. 170).

Several methods are available when assessing social skills. Recent reviews have identified six common assessment procedures: rating by others, sociometric techniques, self-report measures, behavioral role-play measures, behavioral interviews, and naturalistic observations (Asher & Hymel, 1981; Foster & Ritchey, 1979). Rating scales, because of ease of administration and time constraints, are frequently used to measure social skills (Gresham & Elliot, 1987). Rating scales are generally paper and pencil measures where questions are rated on a Likert-type scale. Rating scales typically are offered in a wide variety of forms, such as parent, teacher, and self-report forms.

Purpose of the Present Study

Currently, emotional intelligence is being promoted in the popular literature as something that should be taught to children. A sample of recent publications promoting the development of EQ include Glennon, Elium, and Elium's (2000) 200 ways to raise a boy's emotional intelligence: An indispensable guide for parents, teachers and other concerned caregivers, Lynn's (2000) 50 activities for developing emotional intelligence, Azerrad's (1997) Anyone can have a happy child: How to nurture emotional intelligence, Salovey and Sluyter's (1997) Emotional development and emotional intelligence: Educational implications, and Shapiro's (1998) How to raise a child with a high EQ: A parent's guide to emotional intelligence. If emotional intelligence is as beneficial as the authors believe, educational institutions and cultural practices should focus on developing and fostering emotional intelligence in addition to general and academic intelligences.

Until the development of BarOn Emotional Quotient Inventory (EQ-i) by Reuven Bar-On in 1997 there had been no standardized assessment tool to measure a person's emotional intelligence. The EQ-i was created to assess emotional intelligence in the adult population. From the EQ-i arose the development of the BarOn Emotional Quotient Inventory: Youth Version (EQ-i:YV). The Bar-On model of emotional intelligence "comprises abilities related to understanding oneself and others, relating to people, adapting to changing environmental demands, and managing emotions" (Bar-On & Parker, 2000, p. 1). Very little research, however, has been published with regard to the EQ-i:YV's validity as a measure of emotional intelligence.

Although emotional intelligence is being promoted in the popular literature as something that should be taught to children, it is unclear as to whether schools should include emotional intelligence in their curriculum at this time. Proponents of social and emotional learning programs suggest that without including social and emotional skills into the curriculum, it is impossible for students to completely benefit academically and to attain personal success (Elias et al., 1997). It is also unclear as to whether emotional intelligence is a construct separate from aspects of social intelligence or social competence. Thus, the present study will address the following research question: What is the relationship between emotional intelligence and social competence?

Method

Participants

Three rural public schools (one elementary-3rd and 4th grades; two middle-5th and 6th grades) in South Central Kentucky were selected on the basis of proximity to the researcher. With the permission of principals from the participating schools, a general parent letter was sent home with potential participants. A sample of 59 subjects was obtained and was comprised of 31 (53%) females and 28 (47%) males. The sample age range was 9 to 12 years old, with a mean age of 10.5 years (SD=1.08). The age distribution of the subjects was rectangular, with 24% of the children age 9, 27% of the children age 10, 27% of the children age 11, and 22% of the children age 12. Parent ratings of the children on the SSRS-Parent form were made by 50 (85%) mothers and 9 (15%) fathers. The two criteria used for the selection of participants were that they meet the age requirements of being eight to twelve years old and that they were enrolled in regular education classes. Those students identified and placed in special education programs were not be included in the study. Socioeconomic status information was not collected; however gender data were gathered from student participants. This study was approved by the Western Kentucky University Human Subjects Review Board (see Appendix).

Materials

Social competence was assessed through the use of a social skills rating scale, specifically the Social Skills Rating System (SSRS) (Gresham & Elliott, 1990). The SSRS documents the perceived frequency and importance of behaviors influencing a child's social development in the three areas of Social Skills, Problem Behaviors, and Academic Competence. For the purposes of this study, only the Social Skills domain scores were used for data analyses. The SSRS was chosen because of its technical adequacy, ease of use, and alternate forms to obtain both student and parent ratings.

The standardization of the SSRS consisted of a national sample of 4,170 children. The ratings of the children were made by 1,027 parents and 259 teachers. Norms were developed using age, sex of student, and disability condition as variables. Moderate to high levels of reliability were shown to be present on the SSRS. The internal consistency coefficients ranged from .51 to .83 for the Student form and .65 to .87 for the Parent form. A test-retest correlation of .68 was obtained for the Student form and .87 for the Parent form. The SSRS manual also reports adequate content, criterion-related, and construct validity (Gresham & Elliott, 1990).

The SSRS is easily explained to raters such as parents and students. The questions are worded simply, and respondents must circle one number for each question. All responses require the use of a three-point Likert-type scale (Never, Sometimes, Very Often). Upon completion, the SSRS is also easily scored by the examiner. The technical manual provides standard scores, percentile ranks, and confidence intervals.

The SSRS provides rating scale forms for both the parent and the student. The Social Skills domain on the parent form consists of four subscales, which are

Cooperation, Assertion, Responsibility, and Self-Control. The Social Skills domain on the student form also has four subscales, which are Cooperation, Assertion, Empathy, and Self-Control. Despite the multiple subscales, the SSRS only gives one overall standard score (Mean=100; SD=15). The parent and student forms are paper and pencil measures. Parents answer 38 questions, whereas students are asked to answer 34 questions.

The assessment of emotional intelligence was measured with the EQ-i:YV (Bar-On & Parker, 2000). The EQ-i:YV measures how a person typically feels or acts in his or her everyday life. Students are asked to answer 60 questions on a four-point Likert-type scale (i.e., Very seldom true of me, Seldom true of me, Often true of me, and Very often true of me). Items are categorized into four separate scales called Intrapersonal, Interpersonal, Stress Management, and Adaptability Skills. Results of the EQ-i:YV yield an overall emotional intelligence score (Mean=100; SD=15). The standardization of the Bar-On EQ-i:YV consisted of a sample of 2,450 children and adolescents. Internal reliability coefficients ranged from .65 to .90. Test-retest reliabilities ranged from .77 to .89. The EQ-i:YV was found to have moderate to very high correlations with the adult version.

Procedure

All 3rd, 4th, 5th and 6th grade students of participating schools were contacted as a group in their homeroom classes. A permission letter was distributed for the students to take home and give to their parents. Parents who gave permission for their child to participate in the study were contacted by phone to arrange a convenient time for the researcher to visit after school hours. Home visits to participants were made to obtain the assessment ratings from the child and parent. All students with parent permission and

agreeing to participate completed the BarOn EQ-i:YV and the Social Skills Rating System-Student form. Half of the participants filled out the EQ-i:YV first and then the SSRS-Student form. The other half were asked to first complete the SSRS-Student form and then the EQ-i:YV. One parent or guardian was also asked to complete the SSRS-Parent form at that time. Student participants completed both the EQ-i:YV and the SSRS-Student form in approximately 25 minutes, while the parents or guardians completed the SSRS-Parent form in approximately 15 minutes.

Results

Internal consistencies (coefficient alpha) obtained for the current sample on the SSRS-Student and Parent forms are found in Table 1. The internal consistencies or reliabilities for both forms were calculated on the four subscales and the total scale score. The internal consistency coefficients listed in the SSRS manual (Gresham & Elliott, 1990) are also listed in Table 1 for comparison purposes. The Student form internal consistency coefficients from this study's sample were found to be higher than the coefficients from the norm sample for each subscale and for the Total Scale score. The Parent form internal consistency coefficients from this study's sample were found to be essentially at the same level on two subscales (i.e., Cooperation and Self-Control) as the reliabilities from the norm group. On the Parent form, coefficients for the Assertion and Responsibility subscales, as well as the Total Scale coefficient, were found to be higher than the coefficients from the norm sample. Overall, the obtained internal consistency coefficients indicate a relatively high degree of scale homogeneity (Brown, 1976).

The SSRS - Student form subscale raw score means and standard deviations, as well as the Total Scale standard score means and standard deviations, are displayed by gender in Table 2 for the current study's sample of subjects. The Total Scale means for males and females of this sample were higher than the norm sample mean of 100, indicating a higher than average sample group in terms of social skills. An analysis of the effects of the sample's gender and age on the SSRS standard scores resulted in a

Table 1

Internal Consistency Coefficients for the Student and Parent Forms of the Social Skills Rating System as Compared to the Norm Sample

Student Form			Parent Form		
Scale	Obtained r	Norm r	Scale	Obtained r	Norm r
Cooperation	.77	.68	Cooperation	.76	.77
Assertion	.85	.51	Assertion	.89	.74
Self-Control	.74	.63	Self-Control	.78	.80
Empathy	.78	.74	Responsibility	.77	.65
Total Scale	.92	.83	Total Scale	.92	.87

Table 2

Mean Total Scale Standard Scores and Subscale Raw Scores by Gender for the Student Form of the Social Skills Rating System

	Males		Females	
Scales	Mean	SD	Mean	SD
Cooperation	15.86	3.21	15.26	2.64
Assertion	15.36	3.49	14.19	3.01
Self-Control	16.36	2.71	15.87	2.74
Empathy	12.71	2.64	12.48	2.54
Total Standard Score	115.07	15.12	104.97	16.13

significant negative correlation for gender ($r = -.31$, $p < .05$), meaning that males tended to rate themselves higher than females. No age differences were found ($r = .02$, $p > .05$). It is also important to note that parents' ratings of their children's social skills were significantly lower than the children's ratings of themselves ($t(58) = 12.77$, $p < .05$). The mean standard score rating of the parents was 91.03 (SD = 14.37) while the overall mean of the students was 109.76 (SD = 16.34).

Internal consistencies (coefficient alpha) obtained for the current sample on the Emotional Quotient Inventory: Youth Version are found in Table 3. The internal consistencies or reliabilities were calculated on the four subscales and Total Scale score. Also listed in Table 3 are the internal consistency coefficients given in the EQ-i:YV manual (BarOn & Parker, 2000). The coefficients from the current study's sample were found to be slightly higher than the coefficients from the norm sample for the Total Scale and for two of the subscales (i.e., Adaptability and Stress Management). The internal consistency coefficients for the Intrapersonal and Interpersonal subscales from the study sample were similar to the norm sample. The internal consistencies suggest a relatively high degree of scale homogeneity (Brown, 1976).

The EQ-i:YV Total Scale and subscale standard score means and standard deviations are presented by gender in Table 4 for the current study's sample of subjects. The Total Scale means for males and females of this sample were higher than the norm sample mean of 100, suggesting a higher than average sample group in terms of emotional intelligence. An analysis of the effects of the sample's gender and age on the EQ-i:YV standard scores indicated that there were no gender ($r = -.25$, $p > .05$) or age ($r = .19$, $p > .05$) differences.

Table 3

Internal Consistency Coefficients for the Emotional Quotient Inventory: Youth Version as Compared to the Norm Sample

Scales	Obtained r	Norm r Range
Intrapersonal	.67	.65 - .74
Adaptability	.93	.78 - .85
Stress Management	.87	.76 - .85
Interpersonal	.80	.76 - .84
Total Scale	.94	.86 - .90

Table 4

Mean Total Scale and Subscale Standard Scores by Gender for the Emotional Quotient Inventory: Youth Version

	Males		Females	
Scales	M	SD	M	SD
Intrapersonal	115.19	10.86	111.26	11.64
Adaptability	113.28	13.75	109.23	14.09
Stress Management	107.35	11.77	103.81	11.13
Interpersonal	110.73	10.23	100.90	12.90
Total Standard Score	115.77	14.68	108.49	14.42

A primary focus of this research was the relationship between measures of social skills and emotional intelligence. Pearson Product-Moment Correlation Coefficients (Pearson r) were used to examine the relationship between social skills and EQ measures. The relationship between the SSRS-Student form and the EQ-i:YV is presented in Table 5. All but one of the correlations between the scales of each measure were statistically significant, even after Bonferroni corrections were applied to reduce the chances of Type I error. An examination of the correlations in Table 5 indicate the Intrapersonal subscale of the EQ-i:YV had the lowest correlations (range .28 - .39) with the subscales on the SSRS-Student form. The other three subscales on the EQ-i:YV (i.e., Adaptability, Stress Management, Interpersonal) had higher correlations with the subscales on the SSRS-Student form (range .43 - .65). The lower correlations with the Intrapersonal subscale suggest the Intrapersonal subscale is assessing individual aspects less related to social skills than the other areas of the EQ-i:YV. An examination of the relationship between the EQ-i:YV Total Standard Scores and the various subscales on the SSRS-Student form revealed the Assertiveness subscale of the SSRS had the highest correlation (.75) with the EQ-i:YV.

The relationship between the SSRS-Parent form and the EQ-i:YV is presented in Table 6. Most of the correlations (17 of 25) between the subscales and total scores of each measure were statistically significant after Bonferroni corrections were applied to reduce the chances of Type I error. Although, in general, the correlations were not as high as with the SSRS-Student form, a similar pattern of results was evident. In particular, the Intrapersonal subscale of the EQ-i:YV had the lowest correlations with the SSRS-Parent form subscales and the Total Standard Score. None of the five correlations

Table 5

Correlations Between SSRS-Student Form and EQ-i:YV

	EQ-i:YV				
SSRS-Student Form	Intrapersonal	Adaptability	Stress Management	Interpersonal	Total SS
Cooperation	.39*	.65*	.54*	.63*	.69*
Assertiveness	.39*	.65*	.62*	.64*	.75*
Empathy	.28	.53*	.51*	.43*	.57*
Self-Control	.37*	.58*	.50*	.43*	.59*
Total SS	.40*	.64*	.61*	.67*	.73*

Note. Total SS = Total Standard Score. Bonferroni corrections applied.

*$p < .01$.

Table 6

Correlations Between SSRS-Parent Form and EQ-i: YV

	EQ-i:YV				
SSRS-Parent Form	Intrapersonal	Adaptability	Stress Management	Interpersonal	Total SS
Cooperation	.11	.30	.31*	.27	.36**
Assertiveness	.29	.52**	.63**	.50**	.64**
Responsibility	.08	.30*	.44**	.24	.37**
Self-Control	.28	.45**	.48**	.40**	.51**
Total SS	.23	.47**	.55**	.49**	.59**

Note. Total SS=Total Standard Score. Bonferroni corrections applied.

*$p < .05$. **$p < .01$.

were statistically significant. As with the SSRS-Student form, an examination of the relationships between the EQ-i:YV Total Standard Scores and the various subscales on the SSRS also revealed the Assertiveness subscale of the SSRS-Parent form to have the highest correlation (.64) with the EQ-i:YV.

The overall degree of relationship between the measures of social competence and emotional intelligence can also be found in Tables 5 (Student form) and 6 (Parent form). The Total Standard Scores on the SSRS-Student form and the SSRS-Parent form were correlated with the Total Standard Score on the EQ-i:YV rating scale, resulting in two correlation coefficients. Both forms of the SSRS (Student and Parent) yielded statistically significant correlations ($p < .01$) with the EQ-i:YV. A strong correlation of .73 was obtained between the SSRS-Student form Total Standard Score and the EQ-i:YV Total Standard Score. A slightly lower, but still moderately strong, correlation of .59 was obtained between the SSRS-Parent form Total Standard Score and the EQ-i:YV Total Standard Score. While the correlation for the Student form was numerically higher than the correlation for the Parent form, the difference between the correlations was not found to be significant ($z = 1.33$, $p > .05$).

Discussion

The search to quantify or classify mental abilities gave birth to the concept of intelligence testing. As researchers developed and refined intelligence tests it became apparent that there may be various forms of intelligence. This possibility produced alternative concepts of intelligence. The present study focused on two of those alternative concepts of intelligence: social intelligence and emotional intelligence. Social intelligence refers to one's ability to understand and act appropriately toward others in specific social situations (Greenspan & Granfield, 1992). Emotional intelligence is viewed as perceiving and regulating emotion, as well as thinking about feelings (Mayer & Salovey, 1997). Definitions and descriptions of social and emotional intelligence were presented as possessing some of the same attributes. The degree of relationship that exists between measures of emotional intelligence and social competence was examined in the present study.

Students and parents completed rating scales assessing emotional and social intelligence as measures for investigating the relatedness between the two constructs. The results of the current research provided evidence that instruments designed to assess emotional intelligence and social intelligence were highly related. In particular, students' ratings of themselves on the SSRS - Student form and the EQ-i:YV were highly correlated. Parents' ratings on the SSRS - Parent form and the EQ-i:YV received a moderately strong correlation. One possible explanation for the high degree of

relatedness is that measures of emotional intelligence and social intelligence are assessing similar characteristics. If the measures are assessing similar characteristics, then at least two possible explanations exist. First, it is possible that emotional intelligence is not really a new construct at all but is merely a redefined form of social intelligence. A second possibility is that emotional intelligence and social intelligence are indeed two separate constructs, but current measures of one or both constructs need to be refined to more accurately assess the intended skills and characteristics.

An examination of the correlations between subscales on the social skills and EQ measures resulted in the following interesting findings. The Assertiveness subscale of the SSRS for both students and parents received the highest correlation with the EQ measure. These high correlations imply that the ability to assert oneself is an important factor for being emotionally intelligent. Conversely, the Intrapersonal subscale on the EQ-i:YV resulted in the lowest correlations with the overall SSRS measures for both the students and parents. The low correlations seem to indicate that being able to evaluate one's own emotions and feelings is not an essential component to social skills. Being able to evaluate others' feelings (Interpersonal skills) appears to be a more important component of both constructs than does Intrapersonal skills alone.

Some methodological limitations should be taken into account with respect to the present results. First is the issue of the relatively small sample size, which may limit the generalizability of the results. Second, this study relied on subject self-report data. There may have been an element of social desirability in completing the instruments that may have distorted the results. Third, the fact that students completed the two scales about themselves may have inflated the correlation. Indeed, the parents' ratings resulted in a

lower correlation with the EQ-i:YV than did the correlation with the students' ratings. Finally, the subjects of the current study obtained scores that were above the mean on the measures; therefore the results may only generalize to above average students. In particular, the males of the current sample had mean scores for both the SSRS - Student form and EQ-i:YV measures one standard deviation above the mean. This difference may limit the external validity of this study's results, since results that may have occurred with a more "average" sample are simply not known.

The present findings are an important beginning step in the discussion of social and emotional intelligence and their cultural importance. Future studies would benefit from the use of additional social and emotional measures to cross-validate findings. The current research raises the following specific questions. First, why are measures of EQ and social skills so highly related? Is it because they are similar constructs or is it because one or both measures of the constructs need to be refined to more accurately assess the intended abilities? Second, what is the relationship between social skills training and its impact on EQ? In other words, does teaching a child social skills increase his or her EQ? The converse of the previous two questions can also be examined. For example, does teaching a child to increase his or her EQ increase social skills? A final set of questions revolve around the effectiveness of trying to increase children's EQ. Several popular books are promoting that EQ be taught in public schools. What short-term and long-term effects would that have on children? Would the potential benefits of such training offset the costs (e.g., time, financial)? The fact that emotional intelligence has emerged in the popular literature as one of the most important factors for a successful life yields itself to further definitive investigation on what attributes really produce

success, whether it be academic, social-emotional, a combination of abilities, or some new, yet to be discovered, alternative. The research on EQ is just beginning, and numerous studies will be required to fully understand its impact or contribution to children's development.

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Appendix

Human Subjects Review Board

Letters of Permission

WESTERN KENTUCKY UNIVERSITY
Human Subjects Review Board
Office of Sponsored Programs
104 Foundation Building
502-745-4652; Fax 502-745-4211
E-mail: Phillip.Myers@Wku.Edu

In future correspondence please refer to HS9915, November 22, 1998

Jennifer Allen
C/o Dr. Bill Pfohl
Department of Psychology
Western Kentucky University

Dear Ms. Allen:

1. Your research project "Investigating Emotional Intelligence," has undergone review by the Western Kentucky University IRB for human subjects of research and it has been determined that several minor revisions are necessary.

   a. Please add your co-investigator's name: Ms. Shannon Chesser to the application.
   b. Parents need to have explained that they can receive feedback on the informed consent form.
   c. Please add your name and Ms. Chesser's, along with each of your phone numbers, to the informed consent form.
   d. In Section F, "Side affects", please add that fatigue or boredom may occur during the activity. Also add that breaks will be given to the subjects during the two-hour activity.
   e. In Section E, please include that all data will be secured in a locked file cabinet on the WKU campus during the research and for a minimum of three years afterwards.

2. Once I receive these changes and they are deemed acceptable with the guidance above, your protocol will be approved.

Kindest regards.

Sincerely,

Phillip E. Myers, Ph.D.
Director, Office of Sponsored Programs and
Human Subjects Coordinator

c: Human Subjects File9915

HSAllenRequestRev

WESTERN KENTUCKY UNIVERSITY
Human Subjects Review Board
Office of Sponsored Programs
104 Foundation Building
502-745-4652; Fax 502-745-4211
E-mail: Phillip.Myers@Wku.Edu
In future correspondence please refer to HS9915, December 18, 1998

Jennifer Allen
C/o Dr. Bill Pfohl
Department of Psychology
Department of Western Kentucky University

Dear Ms. Allen:

1. Your research project "Investigating Emotional Intelligence," has undergone review by the Western Kentucky University IRB for human subjects of research; and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

2. In addition, the IRB found that: (1) informed consent will be sought and documented from each prospective subject (**The HSRB recommends that you use a larger font for the informed consent letter);** (2) provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data; and (3) that appropriate safeguards are included to protect the rights and welfare of the subjects. Please store all data securely at an on campus location for a minimum of three years following project completion.

3. Your research therefore meets the criteria of **Full Board Review** under the institutional human subjects protocol and is **approved**. Please note that the institution is not responsible for any actions regarding this protocol before approval. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future but no less than a year from now to determine the status of the project.

Kindest regards.

Sincerely,

Phillip E. Myers, Ph.D.
Director, Office of Sponsored Programs and
Human Subjects Coordinator

c: Human Subjects File
Dr. Bill Pfohl, Professor, Department of Psychology, Faculty Sponsor
Ms. Shannon Chesser, Co-PI

HS9915ApprovalAllen